**Supplementary File 5.** Inserts of GlnZ mutant plasmids.

The modified nucleotides are highlighted in magenta. XbaI sites introduced for cloning were highlighted in yellow.

|  |  |  |
| --- | --- | --- |
| **Plasmid** | **Insert from +1 to end of *gcvB* terminator** | **Positions deleted or mutated** |
| pPL*-*GlnZ1 | atcgtatattaaaaatccgacaaatttcgcgttgctgcaaggcagcaactgagcacatccccaggagcatagatagcgatgtgactggggtaagcgaaggcagccaacgcagcagcagcgtgaaaggcgtcaggagtttttgagttgccgtggaaactttcagcccatcccaggatgggcttttttctccaccaacaatctaga |  |
| pPL*-*GlnZ1 G149C | atcgtatattaaaaatccgacaaatttcgcgttgctgcaaggcagcaactgagcacatccccaggagcatagatagcgatgtgactggggtaagcgaaggcagccaacgcagcagcagcgtgaaaggcgtcaggagtttttgagttgccCtggaaactttcagcccatcccaggatgggcttttttctccaccaacaatctaga | G149C |
| pPL*-*GlnZ1 G146C | atcgtatattaaaaatccgacaaatttcgcgttgctgcaaggcagcaactgagcacatccccaggagcatagatagcgatgtgactggggtaagcgaaggcagccaacgcagcagcagcgtgaaaggcgtcaggagtttttgagttCccgtggaaactttcagcccatcccaggatgggcttttttctccaccaacaatctaga | G146C |
| pPL*-*GlnZ1 G141U | atcgtatattaaaaatccgacaaatttcgcgttgctgcaaggcagcaactgagcacatccccaggagcatagatagcgatgtgactggggtaagcgaaggcagccaacgcagcagcagcgtgaaaggcgtcaggagtttttagttgccgtggaaactttcagcccatcccaggatgggcttttttctccaccaacaatctaga | G141U |
| pPL*-*GlnZ1 G141U/G146C | atcgtatattaaaaatccgacaaatttcgcgttgctgcaaggcagcaactgagcacatccccaggagcatagatagcgatgtgactggggtaagcgaaggcagccaacgcagcagcagcgtgaaaggcgtcaggagtttttagttCccgtggaaactttcagcccatcccaggatgggcttttttctccaccaacaatctaga | G141U/G146C |
| pPL*-*GlnZ2 | agtttttgagttgccgtggaaactttcagcccatcccaggatgggcttttttctccaccaacaatctaga |  |
| pPL*-*GlnZK12 | agtgttttagttgccgtggaaacttttcgcctgtctctggcaggcctgggatcggtggcaagcacatcacgccggatgcgacgcaaatgcgtcttatccggcctacacggtgatgatgtggtaggccggagcaggtgagtcgctctccaacgtgaagtttgtcagctatctgtagcccatctctgcatgggcttttttctccgtcaattctaga |  |
| pPL*-*GlnZK12 G15C | agtgttttagttgccCtggaaacttttcgcctgtctctggcaggcctgggatcggtggcaagcacatcacgccggatgcgacgcaaatgcgtcttatccggcctacacggtgatgatgtggtaggccggagcaggtgagtcgctctccaacgtgaagtttgtcagctatctgtagcccatctctgcatgggcttttttctccgtcaattctaga | G15C |
| pPL*-*GlnZK12 G12C | agtgttttagttCccgtggaaacttttcgcctgtctctggcaggcctgggatcggtggcaagcacatcacgccggatgcgacgcaaatgcgtcttatccggcctacacggtgatgatgtggtaggccggagcaggtgagtcgctctccaacgtgaagtttgtcagctatctgtagcccatctctgcatgggcttttttctccgtcaattctaga | G12C |
| pPL*-*GlnZO157 | atagttgaagttgtactacccggcgcaacaacgccgggatttagttgccgtggaaactttcagcccatctctgcatgggcttttttctccgtcaattctaga |  |
| pPL*-*GlnZO157 G49C | atagttgaagttgtactacccggcgcaacaacgccgggatttagttgccCtggaaactttcagcccatctctgcatgggcttttttctccgtcaattctaga | G49C |
| pPL*-*GlnZO157 G46C | atagttgaagttgtactacccggcgcaacaacgccgggatttagttCccgtggaaactttcagcccatctctgcatgggcttttttctccgtcaattctaga | G46C |
| pPL*-*GlnZO157 U41G | atagttgaagttgtactacccggcgcaacaacgccgggattgagttgccgtggaaactttcagcccatctctgcatgggcttttttctccgtcaattctaga | U41G |
| pPL*-*GlnZO111 | atagttgaagttgtactacccggcgcaacaacgccggaggttcaaaccaggcccatctggcgtaattgttgcagccagtttgaacacggacagcgcgcagaacccggagcgtacactggtacgtgaggagttcgagcactgcccaggttcaaaatggcaaataaaatagcctgatgggactggtttttagttgccgtggaaatttcagcccatctctgcatgggcttttttctccgtcaattctaga |  |